



# PDT-A13P5-2GF3

## 2.5Gbps InGaAs PIN Photodiode with AGC Pre-Amplifier



### Product Overview

The PDT-A13P5-2GF3 is a high-performance InGaAs PIN photodiode with an integrated AGC pre-amplifier, designed for long-wavelength fiber optic applications. The device supports data rates from 2.5Gbps up to 4.25Gbps and features a 5-pin configuration optimized for standard TO-46 package mounting.

### Features

- Industry standard TO-46 package with short cap lens and tab-less design
- Optimized for fiber optic applications
- Designed for long wavelength 2.5Gbps to 4.25Gbps applications
- Photocurrent monitoring functionality available
- Single +3.3V power supply requirement

### Applications

- Fiber optic communication systems
- High-speed data links and transceivers
- Long-wavelength optical receivers

### Specifications

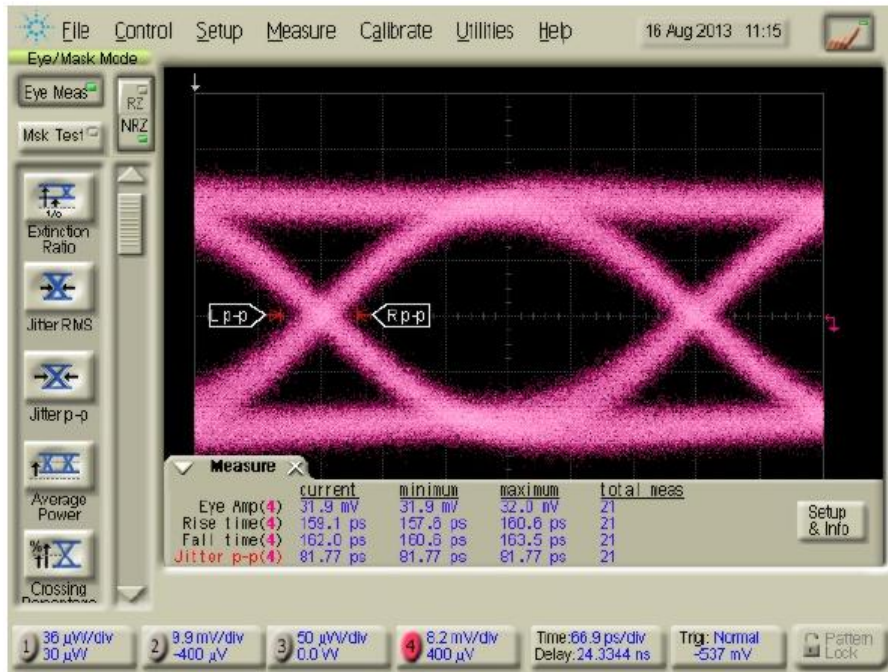
Electro-Optical Characteristics (Typical values are at + 3.3V@25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power Supply	V <sub>CC</sub>	3.0	3.3	3.6	V	
Supply Current	I <sub>CC</sub>	30	34	42	mA	No loads
Differential Responsivity	R <sub>d</sub>	10	16	26	mV/uW	λ=1490nm, R <sub>load</sub> =100ohm, P=-27dBm
Single Ended Responsivity	R <sub>s</sub>	5	8	13	mV/uW	λ=1490nm, R <sub>load</sub> =50ohm, P=-27dBm
Small-Signal Bandwidth	BW	1.4			GHz	
Low-Frequency Cut Off	LF		15	25	kHz	
Rise/Fall Time (20-80%)	tr/tf			200	ps	P=-27dBm, λ=1490nm
Saturation Power	P <sub>sat</sub>	0	3		dBm	
Single Ended Output Impedance	R <sub>o</sub>		50		ohm	
Wavelength	λ	1260		1620	nm	
Sensitivity				-28	dBm	λ=1490nm, @2.5Gbps, PRBS23, ER=10dB, BER=10 <sup>-10</sup>
				-23		λ=1310nm, @4.25Gbps, PRBS7, ER=7dB, BER=10 <sup>-10</sup>

Absolute Maximum Ratings					
Parameters	Min.	Max.	Unit	Conditions	
Storage Temperature	-40	100	°C		
Operating Temperature	-40	85	°C		
Lead Solder Temperature		260	°C	10 seconds	

### Typical Characteristics

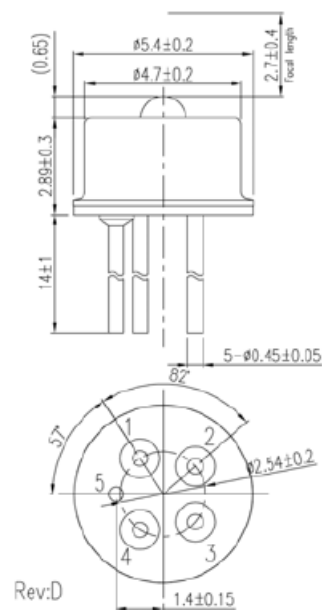
#### Eye Diagram

R<sub>load</sub>=50ohm, P=-27dBm@2488.32Mbps, 1490nm, PRBS 23



tr=159.1ps, tf=162.0ps, Jitter p-p=81.77ps

#### Outline Dimensions (unit: mm)



- Pinout:**
1. Dout
  2. Vcc
  3. Isource
  4. Dout
  5. Gnd

Note: Specifications are subject to change without notice.